

	Ref #	Search Text
1	S1	barrier with (interconnect "UBM" "BLM" (under near3 bump) (ball near3 grid near3 array))
2	S2	(nickel near2 copper) near4 (nickel near3 rich)
3	S3	((nickel near2 copper) "NiCu") near4 (((nickel "Ni") near3 rich) or (nickel near3 high near3 percentage))
4	S4	((nickel near2 copper) "NiCu") near4 (((copper "Cu") near3 rich) or ((copper "Cu") near3 high near3 percentage))
5	S5	((nickel near2 copper) "NiCu") near4 (((nickel "Ni") near3 rich) or ((nickel "Ni") near3 high near3 percentage))
6	S6	S4 same S5
7	S7	S1 and S6
8	S8	S1 with copper
9	S10	S6 same barrier
10	S9	S6 and barrier
11	S11	((nickel near2 copper) "NiCu") with barrier
12	S12	S11 and S1
13	S13	S6 same ((bath\$3 immers\$3) with (((nickel near2 copper) "NiCu") near4 binary))
14	S14	((bath\$3 immers\$3) with (((nickel near2 copper) "NiCu") near4 binary))
15	S15	(((nickel near2 copper) "NiCu") (binary near3 metal))
16	S16	(((nickel near2 copper) "NiCu") ((binary near3 metal) with ((nickel near5 copper) ("Ni" near5 "Cu")))))

	DBs
1	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
2	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
4	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
5	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
6	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
7	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
8	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
9	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
10	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
11	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
12	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
13	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
14	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
15	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
16	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB

	Ref #	Search Text
17	S17	(bath\$3 immers\$3 plat\$3) with (agitation current)
18	S18	((nickel "Ni") near3 rich) or ((nickel "Ni") near3 high near3 percentage)
19	S19	((copper "Cu") near3 rich) or ((copper "Cu") near3 high near3 percentage))
20	S20	S17 and S16
21	S21	S18 same S19
22	S22	S20 and S21
23	S23	((nickel "Ni") near3 rich) or ((nickel "Ni") near4 (percentage "%" concentration))
24	S24	((copper "Cu") near3 rich) or ((copper "Cu") near4 (percentage "%" concentration))
25	S25	S23 same S24
26	S26	S20 and S25
27	S27	S26 not S22
28	S28	((nickel near2 copper) "NiCu") near4 (((nickel "Ni") near3 rich) or (nickel near3 high near3 percentage))
29	S29	((nickel near2 copper) "NiCu") near4 (((copper "Cu") near3 rich) or ((copper "Cu") near3 high near3 percentage))
30	S30	barrier with (interconnect "UBM" "BLM" (under near3 bump) (ball near3 grid near3 array))
31	S31	(adhesion barrier) with (interconnect "UBM" "BLM" (under near3 bump) (ball near3 grid near3 array))
32	S32	S31 and S29
33	S33	(adhesion barrier) with S29

	DBs
17	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
18	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
19	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
20	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
21	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
22	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
23	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
24	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
25	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
26	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
27	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
28	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
29	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
30	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
31	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
32	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
33	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB

	Ref #	Search Text
34	S34	(bath\$3 immers\$3 plat\$3)
35	S35	S34 with S29
36	S36	(adhesion barrier) same S29
37	S37	(adhesion barrier) and S29
38	S38	("20050054196").PN.
39	S39	"Ti[OCH(CH.sub.3)\$4"
40	S40	"Ti[OCH(CH.sub.3)]\$4"
41	S41	Ti[OCH("CH.sub.3")".sub.21].sub.4"
42	S42	"ald"
43	S43	S41 and S42
44	S44	(US-20020070118-\$ or US-20030151141-\$ or US-20040256236-\$).did. or (US-3833481-\$ or US-4131517-\$ or US-4613069-\$ or US-4751110-\$ or US-5158653-\$ or US-5560812-\$ or US-5847327-\$ or US-6037653-\$ or US-6090263-\$ or US-6113758-\$ or US-6258247-\$ or US-6435398-\$ or US-6458694-\$ or US-6547944-\$ or US-6547946-\$ or US-6716572-\$ or US-6716738-\$ or US-6762921-\$ or US-6784543-\$ or US-6930391-\$).did. or (US-2457060-\$ or US-2668107-\$ or US-2892801-\$ or US-2969413-\$ or US-3480522-\$ or US-3489657-\$ or US-3764352-\$).did.
45	S45	S44 and aspect
46	S46	S44 and (aspect near4 ratio)

	DBs
34	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
35	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
36	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
37	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
38	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
39	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
40	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
41	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
42	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
43	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
44	US-PGPUB; USPAT; USOCR
45	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
46	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB

	Ref #	Search Text
47	S47	Ti[OCH("CH.sub.3")".sub.2].sub.4"
48	S48	"Ti[OCH(CH.sub.3).sub.2].sub.4"
49	S49	"Ti" adj ("OCH" adj2 ("CH.sub.3") adj2 "2") adj2 "4"
50	S50	"Ti" adj2 ("OCH" adj2 ("CH.sub.3") adj2 "2") adj2 "4"
51	S51	multi near3 layer with ("NiCu" (nickel near3 copper))
52	S52	barrier with (interconnect "UBM" "BLM" (under near3 bump) (ball near3 grid near3 array))
53	S53	S51 same S52
54	S54	S51 and S52
55	S55	(percentage "%" concentration weight) near4 copper
56	S56	(percentage "%" concentration weight) near4 (copper "Cu")
57	S57	(percentage "%" concentration weight) near4 (nickel "Ni")
58	S58	S57 same S56
59	S59	S58 same S51
60	S60	S58 and S51
61	S61	(multi near3 layer) with ("NiCu" (nickel near3 copper))
62	S62	((nickel "Ni") near3 rich)
63	S63	((copper "Cu") near3 rich)

	DBs
47	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
48	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
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50	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
51	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
52	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
53	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
54	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
55	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
56	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
57	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
58	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
59	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
60	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
61	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
62	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
63	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB

	Ref #	Search Text
64	S64	S62 same S63 same S61
65	S65	S62 and S63 and S61
66	S66	(multi near3 layer) with (bi adj2 (metal\$3 valent))
67	S67	S66 same ("Ni" "Cu" copper nickel)
68	S69	S62 same S63
69	S70	S69 and S68
70	S68	(multi near3 layer) with (("NiCu" (nickel near3 copper)) near4 (alloy composition))

	DBs
64	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
65	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
66	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
67	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
68	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
69	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB
70	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB